

Marine Ecosystem and Beach Clean-up:

Protect the marine environment while visiting:

- **People affect the environments they 'play' in** when hiking, swimming, mountain biking, skiing/snowboarding, climbing, fishing, boating, jet skiing, dirt biking/ATV's, etc
- **It is fun and good for our health to enjoy these activities and environments** but if we want to enjoy these same activities 10 years from now we have to be conscious of the impact we are having
- **How we dispose of trash, use trails, and manage our pets (dogs)** affects these environments in good or bad ways
 - **Be responsible for your pets-** if you have your dog with you in the forest, on the beach or any walking/nature trails – obey leash laws, pick up your pets waste and throw in a trash can
 - **Leave no trash or food–** always come prepared to a pack-it-out. Plastic does not naturally break down in the environment. Human food can disrupt normal eating habits of wildlife. If you see trash that someone else has left –please pick it up
 - **Stay on the trails** – Stay on the well marked trails and leave the rest of the environment for wildlife to use for food and shelter. This allows wildlife and humans to safely use these environments
 - **Leave things how you found them** – sticks, rocks and shells have their place in the environment – they help provide food and/or shelter for many types of wildlife including, insects, birds and marine organisms. Please do not take these things home with you.

Internet Resources:

Marine nearshore

<http://www.ecy.wa.gov/programs/sea/pugetsound/index.html>

<http://www.kingcounty.gov/environment/waterandland/puget-sound-marine.aspx> (King County)

<http://www.kingcounty.gov/environment/animalsAndPlants/clams.aspx> (King County) – Used as a source for WP animal and plant identification booklet.

Text Resources:

Marine Nearshore

Harbo, Rick M. *Whelks to Whales: Coastal Marine Life of the Pacific Northwest*. Madeira Park, BC: Harbour Pub, 1999. –Used as a source for WP animal and plant identification booklet.

Coast and Forest

Pojar, Jim, A. MacKinnon, and Paul B. Alaback. *Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia & Alaska*. Redmond, Wash: Lone Pine Pub, 1994. –Used as a source for WP animal and plant identification booklet.

Marine Ecosystems: Discussion Points-

What is an ecosystem?

Observe:

- Birds, upper shore grasses, flowers, shrubs, trees
- Nearshore marine life and plants
- The human activities are taking place on the Puget Sound
- The human activity on the shoreline

Discuss:

- Describe the nearshore marine habitat –where is it located?
- What does intertidal zone mean?
- Why is this area important to the marine environment?
- How has the nearshore habitat changed overtime?



What are the effects of vandalism, paint and scratching your name into cliff walls?



Is it ok to take these things home from the beach?



What are the possible effects of creating bonfires on the beach?



What are the effects of littering, leaving trash and human food behind?

- How do human activities impact the marine environment?
Hiking, Boating, Fishing, School Field Trips, Barges- commercial transport
- Can these impacts be minimized? How? What activities can coincide with marine habitats?
- What is the connection between a wastewater treatment plant and the Puget Sound marine environment?
 - Between treatment plants, storm drains, road runoff, and the Puget Sound marine environment?

Student guide:

Ecosystems –introduction to wetland, forest and marine environments:

Draw or describe the marine ecosystem, include: plants, animals, water, light, soil

Ecosystem Hydrology: understanding the water cycle and ecosystem hydrology functions-

Draw a picture of the water cycle:

Describe or draw how water moves into and out of a marine ecosystem

Ecosystems and People: Understanding the goods and services humans receive from ecosystems

Describe or draw the goods or services people receive from a marine ecosystem:

Of these goods or services, what is the dollar value of each?



King County

Department of
Natural Resources and Parks
**Wastewater Treatment
Division**

**Wastewater Education Programs
West Point Beach
Student Guide and Discussion Points**

Human impact: beach clean-up

Why did we pick up trash along the beach?

What harm might this trash have caused?